

REMARKS/ARGUMENTS

Applicants appreciate the Examiner's thorough search and examination of the present patent application.

Claims 1, 2, 5-8, and 10-12 are amended, and claim 4 has been canceled to define applicants' invention. No new matter has been added. Applicants submit that the changes to these claims make explicit that which applicants believe to be already implicit.

Claims 1-3 and 5-12 stand rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention. Claims 1-3 and 5-12 have been amended and applicants submit that the changes to these claims overcome the Examiner's rejection under 35 U.S.C. §112. Reconsideration is requested.

Claims 1-3 and 5-12 stand rejected under 35 U.S.C. §101 on the grounds that the claimed invention is directed to non-statutory subject matter. Claims 1 and 12 have been amended and applicants submit that the amended claims are directed to statutory subject matter, and overcome the Examiner's rejection under 35 U.S.C. §101. Reconsideration is requested.

Claims 2-3 and 5-11 depend directly or indirectly from claim 1, and are, similarly directed to statutory subject matter under 35 U.S.C. §101.

Claims 1, 5, 8 and 10-12 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Bogdashevsky et al. ("Bogdashevsky," U.S. Patent No. 6,006,188) in view of Kithil ("Kithil," U.S. Patent No. 5,691,693) in view of Barnhill et al. ("Barnhill," U.S. Patent No. 6,248,063). Applicants respectfully traverse this rejection.

Applicants' claim 1, as amended, recites a method for "detecting a psychological disorder condition" in a person by "recording an activity pattern of the person and analyzing the pattern." Claim 1 includes "receiving" "activity data," including "movement data" and "calculating "parameter data." At least one set of parameter data is fed to an "artificial neural network." The "artificial neural network" organizes "groups or clusters" of the parameter data that have similar properties, and associating the "groups or clusters" with "labels" depending upon "features" having known qualities that are "related to psychological disorders." The "artificial neural network" analyzes the set of parameter data by "determining" a "response value" that is "indicative of a distance between the received set of parameter data and the groups or clusters,"

“determining” “at least one of the groups or clusters that is proximate to the response value” and “outputting an indication of the label” as a “classification” of a “respective feature” related to at least one psychological disorder. In this way, the presence or absence of the psychological condition is determined. Applicants’ claim 12 includes a similar patentable combination of features.

Bogdashevsky, Kithil and Barnhill, taken either in isolation or in combination, do not teach, disclose or suggest the combination of features in applicants’ amended claim 1 or claim 12. In particular, none of the cited references teach an artificial neural network operable to determine, based on a set of parameter data, a response value that is indicative of a distance between a received set of parameter data and groups or clusters of the parameter data. Further, none of the cited references teach an artificial neural network operable to determine, based on the response value, at least one of the groups or clusters that is proximate to the response value. Moreover, none of the cited references teach an artificial neural network that outputs an indication of a label as a “classification” of a “respective feature” related to at least one psychological disorder. In other words, applicants’ artificial neural network recognizes that when the properties for one node in an output map are known, the properties of another node in proximity of the first node will have similar properties. Accordingly, applicants’ claimed method can define, for example, certain areas in an output map where properties are mainly “hyperactive,” “inattentive” or the like. This is not possible with the artificial neural networks taught, disclosed and used in the combination of Bogdashevsky, Kithil and Barnhill.

Neither Bogdashevsky, Kithil nor Barnhill, nor the combination of Bogdashevsky, Kithil and Barnhill teaches, discloses or suggests output from an artificial neural network that is sorted such that neighboring nodes have similar properties. Accordingly, even if one were to combine, Bogdashevsky, Kithil and Barnhill, as the Examiner has done, one skilled in the art would not arrive at the invention claimed in claims 1 and 12. Since features of applicants’ claims 1 and 12 are missing from the combined teachings of Bogdashevsky, Kithil and Barnhill, claims 1 and 12 are not obvious under 35 U.S.C. §103(a). Reconsideration is requested.

Claims 5, 8 and 10-11 depend directly from claim 1, and are patentable as well as because of the combination of features in those claims with the features set forth in the claim(s) from which they depend.

Claims 2, 3 and 9 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Bogdashevsky, Kithil, and Barnhill as applied to claims 1, 5, 8 and 10-12, and further in view of Spencer et al. ("Spencer," Archives of General Psychiatry (2001) Volume 58, pages 775-782). Applicants respectfully traverse this rejection.

Spencer does not supply the elements of applicants' claims 1 and 12 that are missing from the combined teachings of Bogdashevsky, Kithil and Barnhill. In particular, Spencer does not teach using an artificial neural network to determine, based on a set of parameter data, a response value that is indicative of a distance between a received set of parameter data and groups or clusters of the parameter data. Further, Spencer does not teach an artificial neural network operable to determine, based on the response value, at least one of the groups or clusters that is proximate to the response value. Moreover, Spencer does not teach an artificial neural network that outputs an indication of a label as a "classification" of a "respective feature" related to at least one psychological disorder.

Claims 2, 3 and 9 depend directly or indirectly from claim 1, and are patentable as well as because of the combination of features in those claims with the features set forth in the claim(s) from which they depend.

Claims 6 and 7 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Bogdashevsky in view of Kithil in view of Barnhill as applied to claims 1, 5, 8 and 10-12, and further in view of Moore-Ede et al. ("Moore-Ede, U.S. Patent No. 6,070,098"). Applicants respectfully traverse this rejection.

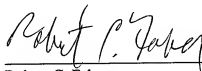
Moore-Ede also does not supply the elements of applicants' claims 1 and 12 that are missing from the combined teachings of Bogdashevsky, Kithil and Barnhill. In particular, Moore-Ede does not teach using an artificial neural network to determine, based on a set of parameter data, a response value that is indicative of a distance between a received set of parameter data and groups or clusters of the parameter data. Further, Moore-Ede does not teach an artificial neural network operable to determine, based on the response value, at least one of the groups or clusters that is proximate to the response value. Moreover, Moore-Ede does not teach an artificial neural network that outputs an indication of a label as a "classification" of a "respective feature" related to at least one psychological disorder.

Claims 6 and 7 depend directly or indirectly from claim 1, and are patentable as well as because of the combination of features in those claims with the features set forth in the claim(s) from which they depend.

Accordingly, and in view of the above-identified amendments to the claims and remarks set forth above, the Examiner is respectfully requested to reconsider the application, allow the claims as amended and pass this case to issue.

THIS CORRESPONDENCE IS BEING
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Respectfully submitted,



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